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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/765,594	01/26/2004	Kenichi Aota	04970/0200827-US0	1744
7278	7590	10/03/2005	EXAMINER	
DARBY & DARBY P.C. P. O. BOX 5257 NEW YORK, NY 10150-5257			GARCIA, ERNESTO	
			ART UNIT	PAPER NUMBER
			3679	

DATE MAILED: 10/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/765,594

Applicant(s)

AOTA ET AL.

Examiner

Ernesto Garcia

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 July 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 January 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner. .
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Drawings

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, "the locking body has a recessed portion (lines 19-20 of claim 1) must be shown or the feature(s) canceled from the claim(s). No new matter should be entered. Note, the exhibit A, provided as an attachment to the remarks, does not fulfill the requirement of 37 CFR1.83(a). Either the feature must be shown or deleted from claim 1.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended". If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings

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for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the examiner does not accept the changes, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

Claims 2-9 are objected to because of the following informalities:

regarding claims 2-9, the limitation "of a shaft body and a shaft joint" in line 1 of each claim should be deleted to correspond to the change to claim 1; and,

regarding claim 9, the limitation "the locking body increased to a second hardness" in line 3 is grammatically incorrect as the locking body is not increased to a second hardness but the projection. Appropriate correction is required. For purposes of examining the instant invention, the examiner has assumed these corrections have been made.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 1, the limitation "a plate body" in line 13 makes unclear whether this is another plate body than that introduced in line 11 or the same plate body. Further, the limitation "at least one of the shaft joint body and the locking body" in line 19 makes unclear whether the statement encompasses an alternative for two conditions being "the shaft joint body" or "the locking body", or an alternative for three conditions being "the shaft joint body", "the locking body", or both. Applicant has indicated that the limitation is basic claim terminology to describe at least three conditions but has not provided substantial evidence such a definition in a dictionary to support such description. The exhibit A provided does not define or provide evidence that the language "at least one of" is common terminology for all conditions. The exhibit merely shows what the specification describes. In any event, the limitation "at least one" alone means one item from a list and not two items from the list.

Regarding claims 3 and 5, the limitation "at least one of the shaft joint body and the locking body" in lines 3-4 makes unclear whether the statement encompasses an alternative for two conditions being "the shaft joint body" or "the locking body", or an alternative for three conditions being "the shaft joint body", "the locking body", or both.

Regarding claim 5, the metes and bounds of the claim is unclear and contradictory. Claim 5 states that the projection is formed of a material with hardness not higher than that of the shaft joint body or the locking body in lines 2-5 and, in the next clause, it states that the hardness of the projection is made higher than that of the shaft joint body and the locking body. This contradicts the first clause. Since hardness is directly associated with material choice, it would be unclear what material does both situations at the same time. Therefore, applicant needs to clarify whether the hardness of the projection is not higher or higher than that of the shaft joint body or the locking body.

Applicant should revisit this rejection as the term “, and” in the second occurrence in line 3 indicates a simultaneous state.

Regarding claim 9, it is unclear what is increased to a second harness and what component has the surface treatment applied to. For purposes of examination, the examiner has assumed the projection has the surface treatment.

Regarding claims 4, 6, and 7, the metes and bounds is unclear. In particular how does a through bore have kerfs, when a bore is just a hole. Further, it is unclear what are the kerfs relative to the drawings. The detail description does not reference any kerfs or the partial piece between the kerfs.

Regarding claims 2 and 8, these claims directly or indirectly depend from claim 1 and therefore are indefinite.

Claim Rejections - 35 USC § 102

Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Haldric et al., 4,900,178.

Regarding claim 1, Haldric et al. disclose, in Figure 3A, a coupling structure comprising a shaft body **12**, a shaft joint **A2**, an a coupling shaft **31**. The shaft joint **A2** includes an engagement groove **A3**, a shaft joint body **23**, a locking body **32**, a regulating tongue **440**, a supported portion **44**, and a plate body **42**. The shaft body **12** engages with the engagement groove **A3**. The shaft joint body **23** has two bores **222,223** facing the engagement groove **A3**. The locking body **32** is press-fitted into one of the bores **222,223**. The supported portion **44** extends from a curved portion **A20** of the plate body **42**. The supported portion **44** is supported between the locking body **32** and the shaft joint body **23**. The plate body **42** has a projection **411** projecting from the supported portion **44**. The shaft joint body **23** or the locking body **32** has a recessed portion **221** into which the projection **411** is fitted.

Claim Rejections - 35 USC § 103

Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Haldric et al. 4,900,178, in view of Aota et al., 6,474,898.

Regarding claim 2, Haldric et al., as discussed above, fail to disclose the projection **411** having hardness higher than hardness of the shaft joint body **23** or the locking body **32**. Aota et al. teach in Figure 3 a projection **11** having a hardness higher than hardness of a shaft joint body **1** or a locking body **21**. However, Aota et al. do not explicitly explain a reason for making the projection having the hardness higher than the hardness of the shaft joint body or the locking body. Since the projection is made of spring steel (see Aota et al., col. 2, lines 52-54), it appears that the projection has to withstand higher impact load or load than the joint body or the locking body not made of steel. Therefore, as taught by Aota et al., it would have been obvious to one of ordinary skill in the art at the time the invention was made to make the projection have a hardness higher than hardness of the shaft joint body or the locking body to sustain high impact loads.

Claims 3, 5, and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Haldric et al. 4,900,178, in view of Aota et al., 6,474,898, as applied to claims 2 and 7 above, and further in view of Sekine et al., 6,155,739.

Regarding claim 3, as best understood, Haldric et al., as modified above, will make the projection **411** from spring steel as taught by Aota et al. However, Aota et al.

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are silent on whether the spring steel has a hardness higher than the hardness of the shaft joint body **23** or the locking body **32**. Sekine et al. teach, in column 17 in lines 9-14, that the spring steel has a hardness higher than the hardness (HRC40) of a shaft joint body or a locking body. Note, conventional shaft joint bodies usually use the HR B scale as the shaft joint bodies are made of carbon steel or aluminum alloys. Therefore, as taught by Sekine et al., it would have been obvious to one of ordinary skill in the art at the time the invention was made to make the spring steel have a hardness higher of the shaft joint body or the locking body for safety reasons.

Regarding claim 5, as best understood, Haldric et al., as modified above, are silent concerning whether the projection **411** is formed of a material with hardness higher than the hardness of the shaft joint body **23** or the locking body **32**. Sekine et al. teach, in column 17 in lines 9-14, a projection formed of a material with a hardness higher (HRC40) than the hardness of a shaft joint body or a locking body. Note, conventional shaft joint bodies usually use the HR B scale as the shaft joint bodies are made of carbon steel or aluminum alloys. Therefore, as taught by Sekine et al., it would have been obvious to one of ordinary skill in the art at the time the invention was made to make the spring steel have a hardness higher of the shaft joint body or the locking body for safety reasons.

Regarding claim 9, as best understood, Haldric et al., as modified above, disclose the projection **411** is made of spring steel as taught by Aota et al. However,

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Aota et al. is silent whether the spring steel has a hardness higher than the hardness of the shaft joint body **23** or the locking body **32** and a surface treatment. . Sekine et al. teach, in column 17 in lines 9-14, that the spring steel has a hardness higher than the hardness (HRC40) of a shaft joint body or a locking body. Note, conventional shaft joint bodies usually use the HR B scale as the shaft joint bodies are made of carbon steel or aluminum alloys. Further, applicant should note that hardened steel is well known to be surface treated as by heating the material and quenching the material in oil or water. Therefore, as taught by Sekine et al., it would have been obvious to one of ordinary skill in the art at the time the invention was made to make the spring steel have a hardness higher of the shaft joint body or the locking body by applying a surface treatment for safety reasons.

Allowable Subject Matter

Claims 4 and 6-8, as best understood, would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.

The following is a statement of reasons for the indication of allowable subject matter:

regarding claims 4 and 6-8, the prior art of record does not disclose or suggest the projection comprising a through bore on a supported portion with kerfs and a partial

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piece between the kerfs in combination with a locking body press-fitted into one of two bores of a shaft joint body. Sekine et al., 6,155,739 disclose the subject matter of claims 4 and 6-8; however, there is no motivation to combine Sekine et al. with Haldric et al. or modify Sekine et al. by providing the locking body press-fitted into one of the bores since doing so will destroy Sekine's et al. invention shown in Figure 9. Further, Oertle, 5,358,350, cannot be modified with the Japanese patent 11-30241, as it would destroy the reference. In particular placing the projection 23 in a recess as taught at 111d in Figure 3, will destroy placing the projection on the thread of the bolt as required by Oertle.

Response to Arguments

Applicants' arguments with respect to claims 1-9 have been considered but are moot in view of the new grounds of rejection.

Applicants have argued that Haldric et al. fail to disclose "a supported portion supported between the locking body and the shaft joint body". Applicants should note that the term "between" is in respect between two points and the examiner has given its reasonable broadest interpretation of the term. A point of reference in the locking body and another point of reference in the shaft joint body as indicated by a line drawn in the attached page of Haldric et al., below, indicates that the supported portion is between these two points of reference, thus between the shaft joint body and the locking body.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. In particular, the added limitation "a curved portion of a plate body" in claim 1, line 11 necessitated the new grounds of rejection. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ernesto Garcia whose telephone number is 571-272-7083. The examiner can normally be reached from 9:30-6:00. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9306 for regular communications and (703) 872-9306 for After Final communications.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Daniel P. Stodola can be reached on 571-272-7087. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 571-272-3700.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

E.J.

Daniel P Stodola

E.G.

September 16, 2005

Attachment: one marked-up page of Haldric et al., 4,900,178

DANIEL P. STODOLA
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3600

